

## SEQUENCE LISTING

<110> Affolter et al.

<120> EXPRESSION OF PROTEOLYTIC ENZYMES IN KOJI MOLD IN THE PRESENCE OF CARBON SOURCES

<130> 112843-029

<140> US 09/936,367

<141> 2001-09-11

<150> 99 104 923.0

<151> 1999-03-11

<160> 2

<170> PatentIn version 3.2

<210> 1

<211> 4238

<212> DNA

<213> Aspergillus oryzae

<400> 1

ctgcagttcc	agtttctacc	ccgtaaaatcc	ctatcaactt	agtccggccc	acattctttt	60
tttttttcc	ttttttttc	gctcccggtc	agagtatag	tgggattttat	tacacaccgt	120
gcgtggcga	agaacgacac	ggaagaagcc	ccggaagacg	ccttctctag	gcaacaaatg	180
atgtactct	tatgatactc	aatacggtag	aaaatagaga	attgagatac	gaaagctgac	240
tcatcagaac	agaataaggg	gaattttga	ttagcaaata	acaataataa	ttatacaaaaa	300
aaacaaataa	aaaaatttag	gggactcccc	acccgctgt	atcctgggtg	tatctcaaag	360
caaagcaggc	gatctggggg	gagcacgtt	tttttttc	tttctctttt	tttctatttt	420
ttttttttt	tttattttttag	gtctatgcct	ttttttttct	tttccttttt	tttttttttt	480
tttgcccccc	gataattctc	cccacacata	ggacatactt	ttttttttt	tcctccact	540
cccttcaagg	tctccgattc	cgataacccc	ctctaccagt	tcgcctgcc	ttttctctc	600
ccctcccccg	aagctccatt	tctctcttct	tcccctccat	tcctcattct	tcctctccg	660
tatttccctt	atatgctct	atccccagac	catttctcca	gatttctctc	tcttcccct	720
ctctcccttt	cgacaaattg	ttgcttgact	acatccatct	cgggttacact	acttacagta	780
ccaattccgg	atatactcta	tcccacccat	caccacattc	cataacagcg	ccctttcatt	840
gggaaagtca	ctcttccttg	aaattggta	catcgccgac	catcgatct	tcttaatcg	900
caaggcttgt	gatactttg	cggtgctcg	tcatcaacta	gtactttgcc	aagagcaagt	960
ctccgtcttg	tcgggtggtg	atcgactctc	cccgatttac	ctacccctgt	tgcgacgaat	1020
cctgattcgc	ctcggtcg	cagccctcc	gagttccct	taagtacagg	ttcgtcccc	1080
tcttagctg	cactcctcg	tgcttaggtt	ggacgagtca	catgccacca	ccggcttctt	1140
cagtggattt	caccaatctg	ctgaaccctc	agaataacga	gactggttt	gcaccccttca	1200
cggccagtgg	tagtccaaag	gctccctcta	ccccgtccag	tactcagttc	aactctacca	1260
tggcctcg	tgttagctt	ctaccggccc	tcatgaaggg	tgctgtccc	gcaacggaaag	1320
aagcgcgcca	ggatctccc	cgtccatata	agtgtcccct	gtgtgatcgc	gccttccatc	1380
gtttggagca	ccagaccaga	catattcgca	cacatacggg	tggaaaggca	cacgttgc	1440
agttcccggg	ctgcacaaaa	cgctttagtc	gctctgacga	gctgacacgc	cactcaagaa	1500
ttcacaacaa	cccccaactcc	aggcggagta	acaaggcaca	tctggccgt	gccgctgccc	1560
ctggcgctgc	cggacaaagag	aatgcaatgg	taatgtgac	caacgcgggc	tcgttgatgc	1620
ccccgcccac	aaagcctatg	acccgctctg	cgcctgtct	tcaagggttgg	tctccggatg	1680
tctccctcc	gcactccttc	tcgaactatg	ccggtcacat	gcgttccaat	ctgggaccat	1740
atgctcgaa	caccgagcg	gcgtcctcg	gaatggat	caatctactt	gccacccgt	1800
catctcagg	tgagcgtat	gaacaacatt	ttgggttcca	cgctggtcca	cgtaatcacc	1860
atttggtc	ctcggtcac	cacaccgtc	gtggctgccc	ttcccttca	gcgtacgcca	1920
tctcgacag	catgagccgt	tctcaactt	acgaggacga	ggatggttac	actcatcg	1980
tcaaggcgtc	aaggccta	tcaccaaact	cgaccgctcc	gtcctcaccg	acttctctc	2040
acgactctc	ttccccaac	ccagaccaca	ctccgttgc	aaccctgtct	cattcgccac	2100

gctttaggtc	attgggatct	agcgaactcc	acttccttc	gattcgccat	ctgtccctcc	2160
atcacacccc	tgcccttgc	ccaatggagc	ccagccgga	aggccccaac	tattacagtc	2220
ccagccagtc	tcatggtccc	acaatcagcg	atatcatgtc	cagacccgac	ggaacacacgc	2280
gtaaactgcc	cgttccacag	gttcccaagg	tcgcggtgca	agatatgtc	aaccccgcg	2340
ctgggtttc	gtcggttcc	tcatcgacga	ataactctgt	cgcagaaat	gatttggcag	2400
aacgttcta	gcctggtgcg	gctgcgaaac	ccttcaatg	tataaagtt	tgggctcaaa	2460
aaaaattctt	gactgtcata	cgcgctacga	aacaataga	cttctgtcat	ttacagtgcg	2520
tggttcatgg	gcatccttgg	tgtcggctgg	cttctttgc	ttacttttt	cgagtatact	2580
tttgcgaggc	gtccatagtg	atagacgggt	ggatattct	tgtggcttt	tccgtgcttg	2640
ttcgatttcc	cccttcgct	ctcctgaaa	aataccttc	ttatcctata	accatttgg	2700
tcattatccc	aatgggaaatt	ggctctacag	ctcttattca	ttttgtctac	tcctctcctg	2760
aggcccagtc	ccctgataat	tccggctct	accatataca	tttcatttcg	actatgtcag	2820
tttccgcttc	gatttagacc	tcgagcagga	cgagagggtt	ccgaaagaaa	atacaaacaa	2880
aaattatagt	aacttcgtt	tactttggca	taatacagta	gtcattagtt	gaggtaggca	2940
taatctggat	gtctaaccat	cacttgcct	aacccttac	catctgtgc	tagtatttt	3000
cttaccggaa	acccaattca	acgagataga	tggattgacg	aataacaatt	tgttgtccag	3060
cgacatgcac	gatacatgcg	tacgtacata	cactaatagt	agtcacagac	cagttcatca	3120
catcctggtc	tcgggttattc	agatacggaa	atgcgtaa	ttggaaagggt	ctaagaaaaa	3180
gcaaaagaaa	agggaaaagtt	aacactggct	ggcgcctct	ttccatctct	gatcaatgtt	3240
attgttcgtc	actcagctgt	ggacgtggct	ccagtcaagt	tgtgaattat	gatagggtat	3300
tgttgacttg	acaagttgat	cttgatggaa	tcaatcttc	tcccccgcag	attctgacgc	3360
ttgaggctct	cggatcgaat	gaacaacttt	tcgcaccaca	tcaaccgggt	gccgcgtgat	3420
gctggagaca	aaccgaccct	aacgtcacgg	tcacacggag	gatacgttt	ctagagccag	3480
ctgataccccc	aagagacaag	aaggtaaagg	tcgcaaaaat	ctttcaata	agatggcattc	3540
ttccccccac	caacccttaa	ccattctct	ttaaagctgt	tgtgccccgc	tttggtgcat	3600
gggcttgggt	agtgcgtcg	caaaactact	aatttaatga	ccgactgctg	ctgcttttc	3660
actcgccgct	cacggactaa	gcatgtggga	acaggatcgc	cccgctacta	tttcagatcg	3720
tgtcgatata	agggtttcgc	ccgggtctgc	tggcacgaac	gccggccatc	caagatcatt	3780
gttctcattc	aaaccgggcg	gcttacgtct	agccgcggac	gtaagcacga	agagtgtgt	3840
tagtgggtgg	agtaagccg	ttgcccgaac	catgcccgtcc	tccacggccg	tcccgctgtt	3900
atcaagcgcac	gctgcctccg	cttcattctc	atcagcgggt	gtatctctgg	agacaagatg	3960
ggcggaaaggt	ctcaccggcc	aggagatatt	agaagacgt	ggaacggccg	cgctcgtcg	4020
cccgccgtcc	cgcctcgct	ggcaatatca	tcaccatacc	tatatctgtc	tgttctatat	4080
cttagattgt	caccacac	tcgacgatgt	cgagcaatgg	aagactcacg	ttctgagcca	4140
cttccgaacc	caccaaccac	cgcgaacacgc	ccgatgcct	ctatgtccgg	gtgagcgggtt	4200
cagcgacacc	cccgaaacaga	aaggatggga	tgcgtatc			4238

<210> 2  
 <211> 431  
 <212> PRT  
 <213> Aspergillus oryzae

<400> 2

Met	Pro	Pro	Pro	Ala	Ser	Ser	Val	Asp	Phe	Thr	Asn	Leu	Leu	Asn	Pro
1					5				10				15		

Gln	Asn	Asn	Glu	Thr	Gly	Ser	Ala	Pro	Ser	Thr	Pro	Val	Asp	Ser	Ser
							20		25			30			

Lys	Ala	Pro	Ser	Thr	Pro	Ser	Ser	Thr	Gln	Ser	Asn	Ser	Thr	Met	Ala
							35		40			45			

Ser	Ser	Val	Ser	Leu	Leu	Pro	Pro	Leu	Met	Lys	Gly	Ala	Arg	Pro	Ala
						50		55		60					

Thr	Glu	Glu	Ala	Arg	Gln	Asp	Leu	Pro	Arg	Pro	Tyr	Lys	Cys	Pro	Leu
					65		70		75		80				

Cys Asp Arg Ala Phe His Arg Leu Glu His Gln Thr Arg His Ile Arg  
85 90 95

Thr His Thr Gly Glu Lys Pro His Ala Cys Gln Phe Pro Gly Cys Thr  
100 105 110

Lys Arg Phe Ser Arg Ser Asp Glu Leu Thr Arg His Ser Arg Ile His  
115 120 125

Asn Asn Pro Asn Ser Arg Arg Ser Asn Lys Ala His Leu Ala Ala Ala  
130 135 140

Ala Ala Ala Ala Ala Gly Gln Gly Gln Glu Asn Ala Met Val Asn  
145 150 155 160

Val Thr Asn Ala Gly Ser Leu Met Pro Pro Pro Thr Lys Pro Met Thr  
165 170 175

Arg Ser Ala Pro Val Ser Gln Val Gly Ser Pro Asp Val Ser Pro Pro  
180 185 190

His Ser Phe Ser Asn Tyr Ala Gly His Met Arg Ser Asn Leu Gly Pro  
195 200 205

Tyr Ala Arg Asn Thr Glu Arg Ala Ser Ser Gly Met Asp Ile Asn Leu  
210 215 220

Leu Ala Thr Ala Ala Ser Gln Val Glu Arg Asp Glu Gln His Phe Gly  
225 230 235 240

Phe His Ala Gly Pro Arg Asn His His Leu Phe Ala Ser Arg His His  
245 250 255

Thr Gly Arg Gly Leu Pro Ser Leu Ser Ala Tyr Ala Ile Ser His Ser  
260 265 270

Met Ser Arg Ser His Phe His Glu Asp Glu Asp Gly Tyr Thr His Arg  
275 280 285

Val Lys Arg Ser Arg Pro Asn Ser Pro Asn Ser Thr Ala Pro Ser Ser  
290 295 300

Pro Thr Phe Ser His Asp Ser Leu Ser Pro Thr Pro Asp His Thr Pro  
305 310 315 320

Leu Ala Thr Pro Ala His Ser Pro Arg Leu Arg Ser Leu Gly Ser Ser  
325 330 335

Glu Leu His Leu Pro Ser Ile Arg His Leu Ser Leu His His Thr Pro  
340 345 350

Ala Leu Ala Pro Met Glu Pro Gln Pro Glu Gly Pro Asn Tyr Tyr Ser  
355 360 365

Pro Ser Gln Ser His Gly Pro Thr Ile Ser Asp Ile Met Ser Arg Pro  
370 375 380

Asp Gly Thr Gln Arg Lys Leu Pro Val Pro Gln Val Pro Lys Val Ala  
385 390 395 400

Val Gln Asp Met Leu Asn Pro Ser Ala Gly Phe Ser Ser Val Ser Ser  
405 410 415

Ser Thr Asn Asn Ser Val Ala Gly Asn Asp Leu Ala Glu Arg Phe  
420 425 430